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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
|-----------------|-------------|----------------------|---------------------|

08/709, 930 09/09/96 GREEN

P EXAMINER 00287-00482

020350 LM21/0719
TOWNSEND AND TOWNSEND AND CREW LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO CA 94111

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| ART UNIT | PAPER NUMBER |
| GARLAND, S | 29 |

DATE MAILED:
2786

07/19/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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|------------------------------|---------------------|------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 08/709930 | Green |
| | Examiner Garland | Group Art Unit 2786 |

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

Responsive to communication(s) filed on 4/20/00, 5/11/00, 6/28/00

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

Claim(s) 115, 118-126, 138, 139, 141, 144 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

Claim(s) 115, 119-122, 144 is/are allowed.

Claim(s) 118, 123-126, 138, 141 is/are rejected.

Claim(s) 139 is/are objected to.

Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on _____ is approved disapproved.
- The drawing(s) filed on _____ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - All Some* None of the CERTIFIED copies of the priority documents have been received.
 - received in Application No. (Series Code/Serial Number) _____
 - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). 24 Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

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DETAILED ACTION

1. Applicant's summary of the interview of 6/22/00 received in the supplemental amendment filed 6/28/00 is an accurate reflection of what was discussed and is substantially correct. The differences are as follows: claim 139, as amended, is no longer being rejected under 35 U.S.C. 135(b). An interference based on the 5,815,640 patent will be subject to a decision on the appeal of the rejection under 35 U.S.C. 135(b) (i.e. an interference based on US Patent 5,815,640 will be declared if the examiner's rejection under 35 U.S.C. 135(b) is reversed on appeal).
2. Claims 138 and 141 are rejected under 35 U.S.C. 135(b) as not being made prior to one year from the date on which U.S. Patent No. 5,524,180 was granted.

U.S. Patent 5,524,180 to Wang et al. claims substantially the same subject matter as is now being claimed in claims 138 and 141. The 5,524,180 patent issued on June 4, 1996 more than a year before instant claims were first presented in the amendment of 7/14/99. The claims of U.S. Patent 5,524,180 bars the claim to substantially the same subject matter under 35 U.S.C. 135(b). See *In re McGrew* 43 USPQ2d 1633 (Federal Circuit 1997) which is particularly relevant.

Comparing instant claim 138 to claim 15 of the 5,524,180 patent, the claims are almost identical and are directed to system that allows a user to control movement of a surgical instrument, wherein the surgical instrument is coupled to a display device that displays an object, comprising:

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a mechanism that moves the surgical instrument, said instrument having an original position;

an input device that receives a command to move the surgical instrument in a desired direction relative to the object displayed by the display device; and a controller that receives said command to move the surgical instrument in the desired direction, computes a movement of said mechanism based on said command and the original position of said mechanism so that the surgical instrument moves in the desired direction, and provides output signals to said mechanism to move said mechanism said computed movement to move the surgical instrument in the desired direction commanded by the user.

The only differences are that patent claim 15 states that the surgical instrument has a tip and that the motion is "incremental movement" instead of the more general "movement" of instant claim 138 .

Claim 15 of the patent is the same or substantially the same as newly added claim 138 of the instant application, since a surgical instrument inherently has a tip, and the movement as claimed in new claim 138 is an incremental movement, since it is based on an original position and a directional movement from that original position.

The additional limitations recited in instant claim 141 are virtually identical to the additional limitations of claim 26 of patent 5,524,180, the only differences are the use of the words controller and input device in the instant application instead of the words "control means" and "input means" in the patent claim. This difference in wording is a result of

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applicant's amendment in response to the objection made in paragraph 2 of the office action of 2/11/00.

Applicant's arguments have been fully considered, but are not deemed persuasive. In response to applicant's arguments, the rejection is based on the 5,524,180 patent which issued more than a year before claims to similar subject matter were first made in the instant application. It is noted that instant claims 138 and 141 were first presented in the amendment filed 7/14/99 more than three years after the 5,524,180 issued on 6/4/96 and are therefore claims to similar subject matter are barred under the clear language of 35 U.S.C. 135(b).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 123 and 124 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilk 5,217,003.

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See the figures; col. 1, line 51 to col. 2, line 16; col. 2, line 33 to col. 3, line 64; and the claims. Note in particular col. 2, lines 44-61; col. 3, lines 19-40; and the claims.

In regards to claim 123, Wilk discloses a first articulate arm (col. 2, lines 48-61), a controller (22 and col. 3, lines 35-40), an input device (col. 3, lines 19-40), cutting an incision (col. 2, lines 34-37), a surgical instrument attached to the arm (col. 2, lines 48-61), inserting the instrument into the patient (col. 2, lines 48-56, col. 4, lines 23-24), generating input commands (col. 3, lines 35-40) and inherently when the operation is completed the surgical instrument is removed from the patient.

In regards to claim 124 which is dependent on claim 123, Wilk discloses a grasper 20.

6. Claim 125 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk 5,217,003 in view of Putman 5,184,601.

In regards to parent claim 123 of claim 125, Wilk discloses a first articulate arm (col. 2, lines 48-61), a controller (22 and col. 3, lines 35-40), an input device (col. 3, lines 19-40), cutting an incision (col. 2, lines 34-37), a surgical instrument attached to the arm (col. 2, lines 48-61), inserting the instrument into the patient (col. 2, lines 48-56, col. 4, lines 23-24), generating input commands (col. 3, lines 35-40) and inherently when the operation is completed the surgical instrument is removed from the patient.

Wilk however does not teach the use of a cauterizer or coagulator and a cutting blade, but Wilk does teach that other surgical instruments can be used. (col. 2, lines 44-47).

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Putman teaches the use of a dissector and an electrocautery instrument during a laparoscopic procedure. See col. 1, lines 43-45 and lines 63-65.

It would have been obvious to one of ordinary skill in the art to modify Wilk in view of Putman and provide a dissector blade and an electrocautery instrument in the apparatus of Wilk, such instruments being useful in typical laparoscopic surgical procedures, as taught by Putman, and consistent with the suggestion of use of surgical instruments other than forceps contained in Wilk.

7. Claim 126 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk 5,217,003 in view of the article by A.M. Sabatini et al. "Force feedback based telemicromanipulation for robot surgery of soft tissues".

In regards to parent claim 123 of claim 126, Wilk discloses a first articulate arm (col. 2, lines 48-61), a controller (22 and col. 3, lines 35-40), an input device (col. 3, lines 19-40), cutting an incision (col. 2, lines 34-37), a surgical instrument attached to the arm (col. 2, lines 48-61), inserting the instrument into the patient (col. 2, lines 48-56, col. 4, lines 23-24), generating input commands (col. 3, lines 35-40) and inherently when the operation is completed the surgical instrument is removed from the patient.

Wilk however does not teach the use of a cutting blade, but Wilk does teach that other surgical instruments can be used. (col. 2, lines 44-47).

Sabatini et al. teaches the use of a scalpel moved by a robot to perform surgery. See the description of figure 1.

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It would have been obvious to one of ordinary skill in the art to modify Wilk in view of Sabatini et al. and provide a scalpel with a cutting blade in the apparatus of Wilk, such an instrument being useful in cutting during typical laparoscopic surgical procedures, as taught by Putman, and consistent with the suggestion of use of surgical instruments other than forceps contained in Wilk

8. Claims 118, 123, and 126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwoh 5,078,140 in view of the article by A.M. Sabatini et al. "Force feedback based telemicromanipulation for robot surgery of soft tissues."

In regards to claim 118, Kwoh teaches a robotic surgery system comprising a robot with an articulated arm (fig. 1); a coupler (21) that holds the instrument and pivots; that endoscopic instruments can be used (col. 8, lines 3-11); a controller and input device (col 5, lines 41-59).

Kwoh however does not disclose the use of a handle on the input device or state that proportional movement is produced.

Kwoh does state that buttons are used in a manner similar to a joystick (col. 7, lines 45-51).

A.M. Sabatini et al. in the description of figure 1 teaches the use of a joystick (i.e., a controller with a handle) to produce proportional movement of a surgical robot.

It would have been obvious to one of ordinary skill in the art to modify Kwoh in view of Sabatini and use a joystick to produce proportional movement in the surgical robot. This would

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allow ease in control of the robot and also reduce the number of buttons and therefore likelihood of an incorrect control being input, a joystick being more intuitive than numerous buttons.

In regards to claims 123 and 126, Kwoh teaches a robotic surgery system comprising a robot with an articulated arm (fig. 1); a controller and input device (col 5, lines 41-59), a coupler (21) that allows the instrument to be attached to the arm, generating input commands to move the instrument (col. 5, lines 41-59; and col. 6, line 67 to col. 7, line 1) and inherently the surgical instrument is removed from the patient when the operation is completed.

Kwoh however does not expressly state that an incision is formed by cutting so that an instrument such as a cannula can be inserted.

Sabatini et al. teach the use of a scalpel moved by a robot to perform surgery. See the description of figure 1.

It would have been obvious to one of ordinary skill in the art to modify Kwoh in view of Sabatini et al. and use a scalpel moved by the robot arm to cut an incision in the patient so that an cannula or endoscopic instrument could be inserted into the patient and a surgical operation performed.

9. Claims 115 ,119-122, and 144 are allowed.

10. Claim 139 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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11. Claims 118; 123-126; 138; and 141 of this application have been copied by the applicant from U. S. Patent Nos. 5,855,583; and 5,815,640 respectively. These claims are not patentable to the applicant because of the reasons set forth above.

12. Applicant's argument that the copied claims rejected based on prior art are believed to be patentable and reservation to present further arguments after an interference decision are noted. The claims are believed to be unpatentable for reasons enumerated above in the rejections.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Garland whose telephone number is (703) 305-9759. The examiner can normally be reached on Monday-Thursday from 6:30 to 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Grant, can be reached on (703) 308-1108. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-9051.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

SP-6

STEVEN GARLAND

Allen R. MacDonald
Supervisory Patent Examiner
Group Director 2780

WILLIAM GRANT
Supervisory Patent Examiner
Technology Center 2700

7/19/00